Before using a copy of this form, verify that it is an acceptable version by checking with your Experiment Review Coordinator. **Double-click to change the state of a checkbox or type an "X" over the box, or paste this ☑.**
For help with this form, see the ESR form FAQ and the ESRs web page.

EXPERIMENT SAFETY REVIEW FORM

REVIEW NUMBER (supplied by ERC): 41

PRINCIPAL INVESTIGATOR: Weiqiang Han **DATE: 06/29/05**

GROUP: CFN

EXT: 7370 **E-MAIL: whan@bnl.gov** **LIFE NUMBER: 23205**

Project Title: Synthesis and Characterization of B-C-N nanotubes and other one-dimensional nanostructures
Location(s): Bldg703-W9
Proposed Start Date and Duration: August 2005; Continuing experiment

SIGNATURES:

Principal Investigator:	**Date:**
Experiment Review Coordinator:	**Date:**
Facility Support Rep:	**Date:**
Environmental Compliance Rep.:	**Date:**
IH:	**Date:**
	Date:
	Date:
Approval Department Chairperson:	**Date:**
Review/Approval Comments:	
Walkthrough Signature:	**Date:**
Expiration Date (max 1 yr.): August 1st, 2006	
FUA Change Required? ☐ Y ☑ N	**Fire Rescue Run Card Changes Required?** ☐ Y ☑ N
Has a NEPA Review been Performed for this Project? ☑ Y ☐ N ☐ Don't know	
Project Termination Acceptance Signature:	**Date:**
Comments:	

I. DEFINE THE SCOPE OF WORK

A. Description

Describe the experiment purpose/scope. Identify all apparatus that will be used, and associated requirements. Indicate if modification of facility (building) is required.

The study of one-dimensional nanomaterials is of great scientific interest since these materials have unique physical, chemical, electronic properties and might have potential applications. In this work, B-C-N nanotubes and other one-dimensional nanostructures (such as nitride, carbide, oxide and borides, metals) will be synthesized.

Carbon nanotubes will be prepared by using carbon hydrides (Methane, etheane and acetylene) as carbon sources. Hydrogen and ammonia will be used as reaction gases. All these gases will be used after gas panels and other safty equipments are ready.

B-C-N nanotubes will be prepared by two methods:
(1) A high temperature furnace (From Lindberg Company and ready to use) is used to react carbon nanotubes with boron oxide under ammonia/nitrogen atmosphere. The chemical reactions can be written as:
$3C+N_2+B_2O_3 \rightarrow 2BN+3CO$ (1) or
$3C+4NH_3+2B_2O_3 \rightarrow 4BN+3CO+3H_2O+3H_2$ (2)
(2) A standard low-pressure chemical vapor deposition system will be used (Planned to buy from CVD EQUIPMENT CORPORATION, Ronkonkoma, NY. The system includes all the safety requirements). Boron-ralated gases (such as diborane) will react with ammonia/nitrogen and catatysts to form BN nanotubes.
The chemical reaction can be descripted as:
$B_2H_6+2NH_3 \rightarrow BN+6H_2$ (3)

Other one-dimensional nanostructures will be made by physical vapor transporation and/or chemical vapor transporation methods. High-temperature solid chemical reaction will also be used.

For example, GaN nitride nanowirs will be made by physical evaporate GaN under the flowing of nitrigen and/or ammonia. GaN powder is put at one-temperature zone and collect samples from anoth temperature zone (A three zones Lindberg furnace will be used). Another way is chemical vapor transformation of GaO to react with ammonia gases to get the GaN nanowires.

The low-pressure standard CVD system will also be used to prepare Si nanowires by using silane and to preapre boride nanowires, for example MgB_2, by using diborane as boron source.

The obtained nanotubes and nanowires will be further functionalized with other materials, such as SnO_2 coated carbon and BN nanotubes and C_{60} filled carbon and BN nanotubes. The methods include vapor transportation and wet chemistry methods.

A torch setup will be used for filling experiments. I will use the torch setup described and approved in Cedomir Petrovic's ESR. This part of procedure utilizes hydrogen-oxygen premix hand torch and vacuum assembly inside the hood. Filled quartz tube is necked down using flame from fixed hand torch to a very small diameter. After cooling down, quartz tube is placed in the vacuum assembly, flushed with argon gas and evacuated from air. Finally, quartz tube is sealed off in the open vacuum line with a flame generated by the premix torch.

A high-pressue low temperature furnace (under application) will be used to make one-dimension nanostructures. For example, put water together with nanotubes at 10M Pa and 120 °C to make water filled nanotubes.

Transmission Electron Microscopy (TEM), Electron Energy Loss Spectroscopy (EELS), Scanning Electron Microscopy (SEM), X-ray Diffraction (XRD) are needed for the characterization of structure, composition and microstructure of these B-C-N nanostructures. TEM, EELS and SEM are available in

Yimei Zhu's group in the CFN. Synthesis group has an Riagku X-ray machine. I will use the x-ray device described and approved in PO2004-077.

Experimental procudures (An example):
(1) Making carbon naotubes by pyrolysis of methane and hydrogen using iron oxide as catalyst
A quartz tube is put into a furnace. A container with 10 mg catalyste is put at the hot zone of the furnace. After the temperature of the furnace reaches 800°C, the methane and hydrogen will be started flowing and keep the reaction for twenty minutes, we obtain carbon nanotubes from the container.
(2) Making BN nanotubes by using carbon nanotube-substitution reaction.
Put 1g B_2O_3 at the bottom of a crucible and then cover with 0. 5 g carbon nanotubes, which are made by the above method. This crucible is then moved into the hot zone of a high-temperature furnace. 100 sccm N_2 and/or ammonia is used as reaction atmosphere. The furnace temperature is then raised to 1500°C and kept there for 60 minutes. After the furnace is cooling down, we obtain the BN or $B_xC_yN_z$ nanotubes from the crucible.
(C) Put 20 mg BN nanotubes into 20 ml 2M SnCl2 solution and stir for 2 hours. We will obtain SnO2 coated nanotubes.
(D) Put 100 mg iron oxide powder at a hot zone of furnace and raised the temperature to 900 °C and then flow 5% diborane (10 sccm) and ammonia (50 scccm). The reaction is kept for 30 minutes. After cooling down, get the BN nanotubes from the boat.

B. Materials Used /Waste Generated

List materials to be used and wastes generated. You may use generic chemical class descriptions for commonly used materials (e.g., organic solvents, acids). ***Use the disposal method codes below.***

Materials Used & Wastes Generated	Disposal Method Type (Code below)	Estimated Quantity (provide units)		Estimated Annual Waste Generation
		Per Use	Total/Yr	
2-MBT	I	1 g	5 g	
AgNO3	I	200 mg	5 g	
Aluminum oxide	I	1 g	5 g	
Ammonium Metavanadata	I	1 g	20 g	
Ammonium acetate	I	1 g	5 g	
Boric acid	I	1 g	10 g	
Borane-dimethylamine complex	I	0.1 g	1 g	
Boron	I	1 g	20 g	
Boron acid	I	1 g	10 g	
Boron carbide	I	1 g	5 g	
Boron nitride	I	1 g	5 g	
Boron oxide	I	1 g	100 g	
Boron silicide	I	1 g	5 g	
Bis(cyclopentadieryl)iron	I	0.1 g	10 g	
Bis(cyclopentadieryl)maganeses	I	0.1 g	2 g	
Bis(cyclopentadieryl)nickel	I	0.1 g	2 g	
Bis(cyclopentadieryl)coblat	I	0.1 g	2 g	
Cerium foil	I	20 mg	500 mg	
Cerium chloride	I	0.5 g	2 g	
Cerium oxide	I	0.5 g	2 g	
Cerium nitrate	I	1 g	10 g	
Cadmium chloride	I	10 mg	500 mg	

Chromium	I	0.1 g	2 g	
Chromium (III) chloride anhydrous	I	0.1 g	2 g	
Chromium (III) nitrate	I	0.1 g	2 g	
Chromium (VI) oxide	I	0.1 g	5 g	
Cobalt chloride	I	1 g	5 g	
Cobalt (II) nitride	I	1 g	5 g	
Cobalt (II) oxide	I	1 g	5 g	
Cobalt (III) sulfate	I	1 g	5 g	
Copper oxide	I	0.1 g	2 g	
Copper sulfate	I	0.1 g	2 g	
Ethylenediamine	I	10 ml	100 ml	
Gadolinium chloride	I	0.5 g	2 g	
Gallium ingot	I	0.5 g	5 g	
Gallium oxide	I	0.5 g	5 g	
Germanium	I	50 mg	1 g	
Germanium oxide	I	100 mg	2 g	
Gold solution	I	1 ml	20 ml	
Carbon	I	0.5 g	10 g	
Hydroazin sulfate	I	0.5 g	2 g	
Indium	I	0.5 g	5 g	
Indium oxide	I	0.5 g	5 g	
Iron	I	1 g	2 g	
Iron chloride	I	1 g	10 g	
Iron(III) nitride	I	1g	10 g	
Iron (II) oxide	I	1g	10 g	
Iron (III) sulfate	I	1 g	10 g	
Latic	I	0.1 g	1 g	
Lead oxide	I	1 g	10 g	
Lead nitrate	I	0.1 g	1 g	
Magnesium	I	1 g	20 g	
Magnesium chloride	I	1 g	20 g	
Magnesium oxide	I	1 g	10 g	
Magnesium sulfate	I	0.1 g	2 g	
Manganese	I	0.1 g	2 g	
Manganese chloride	I	0.1 g	5 g	
Manganese nitrate	I	0.1 g	5 g	
Manganese oxide	I	0.1 g	5 g	
Melamine	I	1 g	10 g	
Molybdenum	I	1 g	5 g	
Molybdenum oxide	I	1 g	50 g	
Molybdenum oxide bis(2, 4-pentanedionate)	I	0.2 g	2 g	
Nickel	I	50 mg	1 g	
Nickel plating solution	I	10 ml	50 ml	

Nickel (II) nitride	I	1 g	20 g	
Nickel (II) oxide	I	1g	20 g	
Nickel (II) sulfate	I	1 g	20 g	
Nickel chloride	I	1 g	20 g	
Palladium (II) chloride	I	0.1 g	1 g	
Palladium (II) nitrate	I	0.1 g	1 g	
Platium chloride	I	0.1 g	1 g	
Sodium tetrachloroplatinate	I	0.1 g	1 g	
Potassium bromide	I	0.1 g	1 g	
Potassium chloride	I	0.1 g	2 g	
Potassium iodide	I	0.1 g	2 g	
Potassium molybdate	I	0.1 g	2 g	
Potassium Sodium tartrate, 99%, ACS (Rochelle salt)	I	0.1 g	2 g	
Potassium tetrahydridoborate	I	0.1 g	2 g	
Ruthenium (III) chloride	I	0.1 g	1 g	
Ruthenium (III) 2,4-pentanedionate	I	0.1 g	1g	
Siliver nitrate	I	50 mg	2 g	
Silicon	I	0.5 g	10 g	
Silicon oxide	I	0.5 g	10 g	
Sodium acetate	I	1 g	5 g	
Sodium bromide	I	1 g	5 g	
Sodium carbonate	I	1 g	5 g	
Sodium chloride	I	1 g	5 g	
Sodium chromaty	I	1 g	5 g	
Sodium citrate	I	1 g	5 g	
Sodium iodide	I	1 g	5 g	
Sodium nitrite	I	1 g	5 g	
Sodium tetrahydridoborate	I	1 g	5 g	
Sodium hypophosphite	I	1 g	5 g	
Sodium n-dodecyl sulfate	I	1 g	5 g	
Sodium phenoxide	I	1 g	5 g	
Thiourea	I	0.1 g	1 g	
Tin chloride	I	1 g	10 g	
Tin sulfate	I	1 g	5 g	
Titanium powder	I	1 g	5 g	
Titanium (II) hydride powder	I	10 mg	100 mg	
Titanium (IV) chloride	I	1 g	5 g	
Titanium oxide	I	1 g	5 g	
Tungsten oxide	I	1 g	20 g	
Urea	I	2 g	10 g	
Vandium oxide	I	1 g	5 g	
Tungsten powder	I	1 g	5 g	

Tungsten oxide	I	1 g	5 g	
Zinc sulfate	I	1 g	5 g	
Ammonia	H	10 g	500 g	5 L
Ethylene	F	5 g	300 g	
Acetylene	F	5 g	300 g	
Methane	F	5 g	300 g	
Diborane (only purchase after get standard CVD system)	F	0.5 g	50 g	
Silane (only purchase after get standard CVD system)	F	0.5 g	20 g	
Hydrogen	F	5 g	300 g	
1,1,2-dichlorobezen	H	10 ml	200 ml	500 ml
Acetone	H	5 ml	1 L	2 L
Chlorform	H	5 ml	100 ml	200 ml
Ethanol	I	20 ml	1 L	
Methanol	I	5 ml	2 L	
2-propanol	I	20 ml	1 L	
Sodium Tetrahydridoborate	H	5 ml	100 ml	200 ml
Hydrazine dihydrochloride	H	5 ml	100 ml	200 ml
Hydrazine sulfate	H	5 ml	100 ml	200 ml
Hydrogen peroxide	I	50 ml	1 l	
Hexyl alcohol	I	10 ml	100 ml	
Benzene	H	20 ml	200 ml	500 ml
Acetic acid	H	20 ml	200ml	500ml
Ethylenediaminetetraacetic acid	H	50 mg	1 g	2g
Hydrochloric Acid	H	2 ml	1L	6 L
Nitric acid	H	2 ml	1L	6 L
Glycolic acid	H	50 mg	10 g	20 g
Sulfuric acid	H	10 ml	100ml	200ml
Ammonia hydrooxide	H	1 g	100 g	200 g
Sodium hydrooxide	H	1 g	100 g	200 g

Disposal Method Codes:

Air Emissions	Liquid Effluents	Wastes
P = Point Source	**S** = Sanitary	**H** = Hazardous
F = Fugitive	**ST** = Storm water	**I** = Industrial (Non-hazardous waste e.g., oils)
	O = Other	**R** = Radioactive
		M = Mixed (Radioactive + Hazardous)
		RM = Radioactive Medical
		MW = Medical
		T = Trash

C. Waste Minimization/Pollution Prevention

Describe how you plan to minimize generation of the wastes described above, and identify pollution prevention opportunities.

A plan is **required** here…

II. IDENTIFY AND ANALYZE HAZARDS ASSOCIATED WITH THE WORK

In this section, indicate the hazards. For each hazard checked, there must be a control in Section III.

Physical Hazards (check all that apply)	☐ None

☐ Cryogens	☐ Oxygen deficient atmosphere	☐ Noise > 85 dBA	
☐ Fall hazards (e.g., ladders, elevated platforms, towers)			
☐ Material handling equipment (e.g., cranes, hoists, forklifts)			
☐ Machine shop or nonportable powered tools use			
☐ Electrical hazards (exposed conductors, large batteries, capacitors, etc)			
☐ Confined space		☐ Remote location	
☑ Compressed gases (lecture bottles, cylinders, gas lines)			
☑ Pressurized vessels or systems			
☐ Vacuum chambers or systems with >1000 J stored energy			
☑ Autoclaves or high temperature ovens			
☑ Open flames		☐ Welding, brazing, silver soldering	
☑ Flammable gases/liquids/solids		☐ Other spark producing activity	
☐ Other (specify):			
Chemical Hazards (check all that apply)		☐ None	
☑ Carcinogens	☐ Highly acute toxins	☐ Reproductive toxins	☑ Corrosives
☑ Flammable liquids	☑ Flammable solids	☐ Strong oxidizers	☐ Oils
☐ Explosives	☐ Peroxidizables	☐ Pyrophoric materials	☐ PCBs
☐ Asbestos	☐ Pesticides/herbicides	☐ Controlled substances	
☐ Highly reactive materials		☐ Perchlorates	
☐ Storage or use of Beryllium or Beryllium articles. Attach Beryllium Use Review Form if checked.			
☑ Toxic metals (e.g., As, Ba, Be, Cd, Cr, Hg, Pb, Se, Ag)			
☐ Other (specify):			
Radiation Hazards (check all that apply)		☐ None	
☐ Sealed radioactive sources		☐ Windowless radioactive sources	
☐ Dispersible radioactive materials		☐ Neutron-emitting radioactive sources	
☐ Non-fissionable radioactive materials		☐ Fissionable radionuclides	
☑ Ionizing radiation-generating devices (x-ray sources, accelerators)			
☐ Class II, IIIa, or IIIb (visible <15mW) lasers		☐ Class IIIb (nonvisible >15mW) or IV lasers	
☐ Dynamic magnetic fields >1G at 60 Hz or dynamic electric fields > 1kV/m at 60 Hz			
☐ Static magnetic fields < 5 G. No Exposure Form is required			

☐ Static magnetic fields > 5 G and < 600 G	☐ Static magnetic fields exposure. Attach Static Magnetic Fields Exposure Form when required.
☐ Static magnetic fields ≥ 600 G	
☐ Radio frequency (RF) or Microwave sources exceeding 10 mW radiated output	
☐ Infrared sources > 10 W	☐ Ultraviolet sources > 1 W
☐ Extremely low frequency (ELF) radio sources	
☐ Other (specify):	

Biological Hazards	☑ None	
☐ Regulated etiological agent	☐ Recombinant DNA	☐ Animals
☐ Human blood/components, human tissue/body fluids		☐ Human subjects
☐ Other (specify):		
Offsite Work (check appropriate box)	☑ None	
☐ Reviewed or controlled by ES&H programs at the offsite location	☐ Requires additional controls (include in the next section)	
Other Issues (Security, Notifications, Community, etc.)	☐ None	
☐ Specify:		

See Identification of Significant Environmental Aspects and Impacts Subject Area or your ECR for assistance in completing the following table. Include environmental aspects of activities, products, and services that apply to this project.

Significant Environmental Aspects (check all that apply)	☐ None
☑ Any amount of hazardous waste generation	
☐ Any amount of radioactive waste generation	
☐ Any amount of mixed waste generation (radioactive hazardous waste)	
☐ Any amount of transuranic waste generation	
☑ Any amount of industrial waste generation (e.g., oils, vacuum pump oil)	
☐ Any amount of Regulated Medical Waste	
☐ Any atmospheric discharges that require engineering controls to reduce hazardous air pollutants or radioactive emissions, or are identified as a Title V emission unit, or require monitoring under NESHAP	
☐ Any liquid discharges that require engineering controls to limit the quantity or concentration of the pollutant, or include radionuclides detectable at the point of discharge from the facility, or contain any of the chemicals listed on BNL's SPDES permit	
☐ Storage or use of any chemicals or radioactive materials that require engineering controls	
☐ On-site or off-site transportation of chemicals or dispersible radioactive materials	
☐ Any use of once-through cooling water with a flow of 4 gpm – 24 hrs/day (10 gpm – 8 hrs/day, daily use of >15 gpm for >60 days) and discharging to the sanitary sewer	

☐ Soil contamination or activation
☐ Any underground pipes/ductwork that contains chemical or radioactive material/contamination
☐ Other environmental aspects related to your work (specify):
☐ Process Assessment Form required (determined by ECR or other qualified person)

III. DEVELOP AND IMPLEMENT HAZARD CONTROLS

For each hazard identified in Section II, describe how that hazard is controlled. Implement hazard controls in consultation with personnel who perform the work.

A. Physical Hazards/Controls

Hazard	Controls (Administrative, Engineered, Protective Equipment)
Compressed gases	Follow manufacturer’s instructions. Users require compressed gas safety training.
High Temperature Ovens	Follow manufacturer’s instructions.
Flammable Gases & Liquids	Follow manufacturer’s instructions and keep away from open flames, spark producing devices, and high temperatures.
Pressurized vessels or systems	Follow manufacturer’s instructions

B. Chemical Hazards/Controls

Hazard	Controls (Administrative, Engineered, Protective Equipment)
Carcinogens	Properly label the containers, work area, and storage area as carcinogens. Maintain the CMS inventory. All work with hazardous chemicals in done in hood.
Hazardous chemicals	Maintain the CMS inventory. All work with hazardous chemicals in done in hood and using the proper PPE. I will not use toxic chemicals such as Tl, Hg, Cd. When I use ammonia, the gas outlet will be connect with a large water bottle since ammonia is soluable in water. All chemicals will be stored safely.
Flammable Solids	Properly label the containers, work area, and storage area as Flammable. Maintain the CMS inventory
Corrosives	Properly label the containers, work area, and storage area as Corrosive. Maintain the CMS inventory
Flammable liquids	Properly label the containers, work area, and storage area as Flammable. Maintain the CMS inventory
Toxic metals	Cr will be used. Properly label the containers, work area, and storage area as toxic. Maintain the CMS inventory

C. Environmental Hazards/Controls (include on/off site transportation and products/services)

Hazard	Controls (Administrative, Engineered, Protective Equipment)
Hazardous waste generation	All waste chemicals will be treated as hazardous waste. Waste management division determines which are hazardous and which are industrial wastes. Strictly follow the SBMS Hazardous waste Management subject area, and the NC & Physics Department Guidance.
Industrial Waste Generation	Strictly follow the SBMS Hazardous waste Management subject area, and the NC & Physics Department Guidance.

D. Radiation Hazards/Controls

Hazard	Controls (Administrative, Engineered, Protective Equipment)
Ionizing Radiation Producing Device (XRD)	Interlock system and design by Rigaku. Complying with operating procedures. The machine has been registered with the BNL x-ray generating devices coordinator. This device is approved as part of PO2004-077. Operators will be trained in the use of the Rigaku by the PI on that ESR.

E. Biological Hazards/Controls

Hazard	Controls (Administrative, Engineered, Protective Equipment)
None	

F. Offsite Work Hazards/Controls

Hazard	Controls (Administrative, Engineered, Protective Equipment)
None	

G. Other Issues (Security, Notifications, Community Involvement, etc.)/Controls

Issue	Controls (Administrative, Engineered, Protective Equipment)
None	

IV. PERFORM WORK WITHIN CONTROLS

All work shall be performed within the controls identified within this document. It is the PI's responsibility to ensure that this document is kept up to date.

A. Training

List all project personnel, indicating they are authorized and competent to perform the work described. Contact your Training Coordinator and ES&H Coordinator as appropriate for assistance. It is the responsibility of the PI to maintain a complete up-to-date list of personnel and their full training requirements, and to ensure that training and qualifications are maintained.

Name	Life/Guest #	Required Training (Course or JTA code)
Weiqiang Han	23205	See attached record

B. OSHA/DOE Required Medical Surveillance

Indicate if potential exposure is in excess of trigger levels listed.

Regulated Hazard	Hazard Specific Training Trigger	Medical Surveillance Exposure Trigger
☑ None		
☐ Inorganic Arsenic	Any day above the OSHA action level (without regard to respirator use)	30 days/year above the action level (without regard to respirator use)
☐ Lead	Any day above the OSHA action level	30 or more days/year at or above the action level
☐ Cadmium	Any day above the OSHA action level	30 or more days/year at or above the action level
☐ Methylene Chloride	Any day above the OSHA action level	- 30 days/year at or above the action level - 10 days/year above the 8-hour TWA PEL or the STEL - Any time above the 8-hour TWA PEL or STEL for any period of time where an employee at risk from cardiac disease or other serious MC-related health condition and employee requests inclusion in the program
☐ OSHA Regulated Chemicals *Acrylonitrile* *Benzene* *Benzidine* *1,3 Butadiene* *4-Dimethyl aminoazobenzene* *Ethylene oxide* *Ethyleneimine*	Any day above the OSHA PEL	- Routinely above the action level (or in the absence of an action level, the PEL) - Event such as a spill, leak or explosion results in the likelihood

Regulated Hazard	Hazard Specific Training Trigger	Medical Surveillance Exposure Trigger
Formaldehyde *Vinyl Chloride*		of a hazardous exposure
☐ Biohazards (CDC/NIH/WHO listed Agent)	None	See Subject Area for guidance
☐ Bloodborne Pathogens		
☐ Health Care Protocol		
☐ Small Animal		
☐ Non Human Primate		
☐ Other Regulated Etiologic Agent		
☐ Lasers	Use Class IIIb or Class IV Lasers	Use Class IIIb or Class IV Lasers
☐ Static Magnetic Fields	Worker who routinely works in magnetic field	- Any time at ≥ 0.5 mT (5 G) for Medical Electronic Device wearer - Any day at ≥ 60 mT (600 G) to whole body [8 hour average] - Any day at ≥ 600 mT (6000 G) to limbs [8 hour average] - Any Time at ≥ 2 T (20,000 G) to whole body [ceiling] - Any time at ≥ 5 T (50,000 G) to limbs [ceiling]
☐ Noise	Any day above the ACGIH TLV	Any time equal or greater then 85 dBA TWA 8-hour dose

C. Emergency Procedures

Identify any emergency actions, procedures, or equipment that must be in place. Do NOT include first aid or calling x2222.

None

D. Termination/Decontamination

Describe your decommissioning plan. Indicate if a walk-down or an ERE will be scheduled to ensure the area is suitable for future projects. Indicate if Work Permit Form/Procedure will be used.

After I make the desired materials, I will follow the regulations in the on-site transportation subject area in the SBMS.

V. PROVIDE FEEDBACK ON ADEQUACY OF CONTROLS AND CONTINUE TO IMPROVE SAFETY MANAGEMENT

Provide comments on the review process. Identify lessons learned or worker feedback contributing to modifications/improvements to the controls or process.

None

VI. ATTACHMENTS

Use this section to include any supporting documents, hazard assessments, figures, tables, etc. that were not entered into the previous sections of the form.

Safety course record